WHAT IS CLAIMED IS:

1. An optical fiber treatment apparatus for peeling off an outer cover of an optical fiber having an inside outer cover and an outside outer cover, the apparatus comprising:

a base; and

an outer cover peeling-off part, said outer cover peeling-off part holding the optical fiber with straight, and discharging a heated air to the straight held optical to remove the outer cover of the optical fiber by using a difference of thermal deformation between the inside outer cover and the outside outer cover.

2. An optical fiber treatment apparatus as claimed in claim 1, wherein a temperature of the heated air is set to 400℃ ~ 550℃.

3. An optical fiber treatment apparatus as claimed in claim 1, wherein the outer cover peeling-off part includes:

a heater, installed on the base, for heating air injected from outside to discharge the heated air to the outside; and

a clamp means, installed on the base, for clamping both side of the optical fiber at a point for the heated air discharged by the heater to remove the outer cover by means of the heated air from the heater.

4. An optical fiber treatment apparatus as claimed in claim 3, wherein the heater includes:

a housing having a hollow body, one end of the hollow body connected to a nozzle for discharging air, and the other end of the hollow body connected with a closing body for closing the hollow body;

a blastpipe connected in the housing and having a passage for passing air injected through the closing body to the nozzle; and

a heating body installed in the blastpipe, said heating body being heated by electric power from outside to heat the injected air.

5. An optical fiber treatment apparatus as claimed in claim 4, wherein said heating body is any one of a coil type heating body formed by winding a heating line as a coil-shape and a ceramic heating body formed as a ceramic rod.

6. An optical fiber treatment apparatus as claimed in claim 5, wherein said coil type heating body is formed by bending the heating line to have 3 and more angles, said heating body being shown as a twisted shape.

7. An optical fiber treatment apparatus as claimed in claim 3, wherein the clamp means further includes a sliding guide, said sliding guide having a straight line in front of the heated air discharging opening of the heater.

8. An optical fiber treatment apparatus as claimed in claim 3, wherein the clamp means comprises:

a clamp bundle connected on an axis of the sliding guide to perform selectively a straight movement and a rotational movement;

a finger base having a receiving groove for positioning the optical fiber on the lower side of the clamp bundle;

a finger connected by a hinge and for clamping the optical fiber in the receiving groove on the upper side of the finger base;

a torsion spring elastically connected the hinge to apply always elasticity in a direction for unclamping the finger; and

a finger operating lever rotatably connected the finger base in the rear of the finger to clamp the finger through a rotation operation.

9. An optical fiber treatment apparatus as claimed in claim 8, wherein the clamp means further comprises:

a rotation preventing axis for connecting the clamp bundles to prevent an individual movement of clamp bundle.

10. An optical fiber treatment apparatus as claimed in claim 7, wherein the clamp means further comprises:

a tension controlling means for adjusting a tension of the clamped optical fiber by moving the tension controlling means centering around an axis of an fixing axis by a clearance in the equally divided clamp bundles.

11. An optical fiber treatment apparatus as claimed in claim 10, wherein the tension controlling means comprises:

a ball bearing positioned with a point contact between the outer diameter of the fixing axis and the inner diameter of the clamp bundles to guide a rotational movement, or the rotational movement and a straight movement;

a big diameter and a small diameter ring bushes connected slidably with each other and positioned between the inner diameter of each one end of the clamp bundles and the outer diameter of the fixing axis with a slack;

a elastic member elastically connected in the inner side of each of the clamp bundles between the ring bushes to push the clamp bundles at all times;

a tension applying pusher coupled slidably on the fixing axis from a tip end of the fixing axis to a tip end of the clamp bundle; and

a cam lever rotatably connected to an end of the fixing axis, and having a curved cam line to move the tension applying pusher with a predetermined clearance according to a rotation of the fixing axis and to supply an operational power to the elastic member.

12. An optical fiber treatment apparatus as claimed in claim 1, further comprising a cutting means, positioned on the base at a side of the outer cover peeling-off part, for clamping the optical fiber and for cutting the clamped optical fiber.

13. An optical fiber treatment apparatus as claimed in claim 12, wherein the cutting means comprises:

a body having a straight guiding groove perpendicular to the sliding guide and installed on a side of base 10, the side being not faced to the heater and included in a straight section of the clamp means;

a slider connected in the straight guiding groove of the body;

a slider controlling means provided to both of the body and the slider to control a forward and backward movement of the slider to make it possible to scratch the optical fiber when the clamp means in a cutting position, and to maintain the backward movement of the slider for cutting the optical fiber;

a cutter, mounted on the slider having the slider controlling means, for scratching a circumference of the optical fiber along a movement of the slider;

a press means operated in the direction of rotating axis on the optical fiber scratched by the cutter to cut the scratched portion of the optical fiber; and

a cover rotatably connected to a side of the body and pivoted on the hinge to control the forward and backward movement of the slider, and to control the rise

and fall of the press means in connection with the forward and backward movement of the slider.

14. An optical fiber treatment apparatus as claimed in claim 13, wherein the slider controlling means comprises:

an elastic member positioned between the slider and the straight guiding groove to provide a forward force to the slider;

a pusher formed at the rear of the cover to operate in connection with an opening of the cover, and to overcome elasticity of the elastic member to back the slider;

a lower stopper elastically supported by a elastic member in vertical direction on the slider to obtain a climbing power in order to maintain the slider backed by the pusher or to move the slider forward;

an upper stopper, operated in connection with a closing motion of the cover, for controlling the lower stopper to provide a forward force to the slider; and

a protrusion, formed on a side of the slider, for falling the press means after the optical fiber being scratched by an operation of the lower and upper stoppers together with the forward movement of the slider.

15. An optical fiber treatment apparatus as claimed in claim 13, wherein the press means comprises:

a plunger positioned under the cover opposite to the cutter moved forward and backward, and risen and fallen by an elastic member; and

a plunger stopper protruded downwardly from a side of the plunger and supported by the protrusion of the slider, the plunger stopper stroking and cutting a scratched portion of the optical fiber as a supporting of the protrusion being released after the optical fiber scratched by a forward movement of the slider and the cutter.

16. An optical fiber treatment apparatus as claimed in claim 12, wherein the cutting means is an ultrasonic cutter, and the ultra sonic cutter cuts an optical fiber with a removed outer cover when the optical fiber with the outer cover removed by the outer cover peeling-off part is mounted.

17. An optical fiber treatment apparatus as claimed in claim 16, wherein the ultrasonic cutter comprises:

a body mounted on the base to be straight to the clamp means, the body having a slidably connected guide axis, the guide axis being moved in straight in parallel to a length direction of the clamped optical fiber;

a sliding body slidably connected to move forward and backward with respect to the clamped optical fiber on the upper part of the body, and having a stopper for limiting the forward and backward movement to the body in the rear;

a damper installed at the rear of the body to interfere with the stopper at all times, and providing a reduced forward moving force to the sliding body through a spring pushing the sliding body and a piston generating an air resistance;

a cutting lever rotated by a rotating axis at the front of the body, and providing a reduced backward moving force to the sliding body by overcoming the damper by means of an interfering protrusion projected from the sliding body in a rotating position; and

a cutter installed on the upper part of the sliding body to be operated with the operation of the damper and the cutting lever, and cutting the optical fiber by using a vibration from an ultrasonic oscillator.

18. An optical fiber treatment apparatus as claimed in anyone of claims 1, 3, 12 and 16, wherein further comprising an exhaust pipe, in the base, for removing and discharging a smoke or a stench produced by the peeling-off of the outer cover from the heater, and an exhaust fan connected to the exhaust pipe.

19. An optical fiber treatment apparatus as claimed in anyone of claims 1, 3, 12, 16 and 18, wherein a sleeve welding part for inserting a sleeve in an optical fiber and welding the sleeve is installed on the base, the optical fiber being performed with a peeling-off of outer cover, a cutting by a cutter and a welding by a separate welder.

20. An optical fiber treatment apparatus as claimed in claim 19, wherein the sleeve welding part comprises a heating room connected to a passage for a heated air, and a door for opening/closing the heating room when an optical fiber with a shrinking sleeve being positioned in the heating room.

21. An optical fiber treatment apparatus as claimed in claim 20, wherein the sleeve welding part further comprises a sleeve heater in the heating room to shorten the heating time of the shrinking sleeve.

22. An optical fiber treatment apparatus as claimed in claim 19, wherein the sleeve welding part comprises a heating room with a door for opening/closing the inner space of the room in the base, and a sleeve heater for heating an optical fiber with a shrinking sleeve in the inner space and welding the sleeve.

23. An optical fiber treatment apparatus as claimed in claim 19, wherein the sleeve welding part comprises another heater for peeling off the outer cover in addition to the heater for discharging a heated air, a heating room connected to a section for discharging the air heated by the another heater, and a door for opening/closing the heating room when an optical fiber with a shrinking sleeve being positioned in the heating room.

24. An optical fiber treatment apparatus as claimed in anyone of claims 1, 3, 12, 16, 19, 21, 22 and 23, wherein further comprising a control panel for turning on/off electric power, controlling a heating temperature gradually, and controlling processes for peeling-off of outer cover, cutting and sleeve welding.

25. An optical fiber treatment apparatus as claimed in claim 24, wherein the control panel comprises:

a key pad for inputting requirements for turning on/off electric power, setting of heating temperature and processes for peeling-off of outer cover and welding of cut sleeve;

a temperature sensing part, installed on a side of a space, for sensing air heated by the heater or the sleeve heater in the space;

a control part for receiving the temperature signal sensed by the temperature sensing part in real time, and controlling an operation of the heater or the sleeve heater and an operation of a driver for moving a cutting means when a difference between the sensed temperature and the set up temperature being sensed; and

the driver for driving the cutting means for moving the heater, the sleeve heater and the cutting means through a signal from the control part.

26. An optical fiber treatment apparatus as claimed in claim 25, wherein the control part comprises a data part for storing a temperature data for the outer cover

of optical fiber and the shrinking sleeve in order to drive the heater or the sleeve heater based on working temperature according to the kind of outer cover of the optical fiber or the shrinking sleeve.

27. An optical fiber treatment apparatus as claimed in anyone of claims 3, 6 and 12, wherein the heater is slightly inclined to discharge the heated air downwardly.

28. An optical fiber treatment apparatus as claimed in anyone of claims 1, 3, 12, 13, 14, and 16, wherein further comprising a driving part for moving the heater horizontally or vertically in order to oppose a heated air discharging section to an outer cover removing section in a moment to remove the outer cover.

29. An optical fiber treatment apparatus as claimed in anyone of claims 1, 3, 12, 13, 14, and 16, wherein further comprising a driving part, in the base, for moving an optical fiber with straight or rotating the optical fiber in order to oppose a heated air discharging section to an outer cover removing section in a moment to remove the outer cover.

30. An optical fiber treatment apparatus as claimed in anyone of claims 1, 3, 12, 13, 14 and 16, wherein a length of a heated air discharging section is formed to be equal to that of au outer cover removing section to peel of an outer cover of

optical fiber in a process for opposing the heated air discharging section to the outer cover removing section.

31. An optical fiber treatment apparatus as claimed in anyone of claims 1, 3, 12, 13, 14 and 16, wherein a heated air discharging section is formed to shortened than that of an outer cover removing section to peel off an outer cover of optical fiber by moving the heated air discharging section along the outer cover removing section, or moving the optical fiber with respect to the heated air discharging section by the outer cover removing section.

32. An optical fiber treatment apparatus as claimed in claim 3, wherein the heater comprises:

a heater, installed on the base, for heating air injected from outside to discharge the heated air to the outside;

a heating body connected in the housing to heat an injected air through electric power form an outside power supply; and

a passage forming pipe connected between the housing and the heating body to go and return air injected through a closing body from the inner circumference of the housing and the heating body two time and more, and to discharge the air to the nozzle.